

## CLAIMS

The invention claimed is:

- 5  
Sub E
1. A file tracking system comprising:
- a database for maintaining file location and unique file addresses for a plurality of files;
  - a processor for interfacing with said database and issuing control signals;
  - a bus connected to said processor;
  - a folder retainer connected to said processor by said bus; and
  - a plurality of file folders, each file folder including an addressable device adapted to be electrically connected to said bus when the file folder is placed in said folder retainer, each addressable device being responsive to a control signal including the unique address associated with the addressable device to transmit a signal back to said processor so that said processor may maintain the file location of each file in said database.
- 10
2. The file tracking system of claim 1, further including an indicator located on one of said file folders, wherein said addressable device includes an addressable switch and said indicator is activated when said addressable switch receives a control signal from said processor including the unique address corresponding to the file folder.

SECRET

3. The file tracking system of claim 2, further including:

an input device for receiving commands and file identification information from an operator and providing the commands and file identification information to said processor,

5 wherein, when the operator inputs a command to search for a specific file, said processor accesses a unique address and file location stored in said database as corresponding to input file identification information identifying the specific file to be searched for, displays the file location, and transmits a control signal including the unique address to the addressable switch of the file folder containing the specific file causing the addressable switch to activate the indicator.

4. The file tracking system of claim 2, wherein said addressable switch includes:

a ROM having the unique file address stored therein;

address comparing means for comparing an address included in a control signal received from said the processor with the unique address stored in said ROM; and

state changing means for changing the state of said addressable switch when said address comparing means determines that the address included in the received control signal is the same as the unique address stored in said ROM.

5. The file tracking system of claim 4, wherein said addressable switch further includes a load transistor having a gate, a source, and a drain, said gate connected to said state changing means, wherein said state changing means changes the state of said addressable switch by turning on and off said load transistor.

6. The file tracking system of claim 5, wherein said indicator is an indicator light having a first terminal connected to said first conductor, and a second terminal connected to said source of said load transistor, wherein said drain of said load transistor is connected to said second conductor, and said indicator light is turned on when said load transistor is turned on  
5 by said state changing means.

7. The file tracking system of claim 1, wherein said processor includes:  
polling means for periodically polling said file folders to determine the presence and location of each file folder;

means for updating said database when said polling means determines that a file location is different from the location previously stored or that a file that said database previously indicated as present is no longer present.

8. The file tracking system of claim 1, wherein said processor is a personal computer.

9. The file tracking system of claim 1, wherein said processor is any one of a plurality of computers connected to a local area network.

10. The file tracking system of claim 9, wherein said database is a distributed database accessible by any one of said plurality of computers.

11. The file tracking system of claim 1, wherein each of said file folders further include:  
a surface;

a first conductor on said surface for providing control signals to said addressable device when the file folder is placed in said folder retainer; and

a second conductor on said surface for providing a ground to said addressable device.

at least one surface;

13. The file tracking system of claim 12, wherein at least one of said first and second conductive rails are integrated into a suspension rail of a file drawer upon which hanging file folders may be suspended.

15. The file tracking system of claim 12, wherein said folder retainer is a file tray, wherein at least one of said first and second conductors are positioned in said file tray.

16. The file tracking system of claim 12, wherein said surface is an interior surface of a file drawer for use in a file cabinet, wherein at least one of said first and second conductive rails are positioned in said file drawer.

17. The file tracking system of claim 16, wherein at least one of said first and second conductive rails are positioned along a bottom of said file drawer.

18. The file tracking system of claim 16, wherein at least one of said first and second conductors are positioned along a side of said file drawer.

19. A file tracking system comprising:

- a database for maintaining file location and unique file addresses for a plurality of files;
- a processor for interfacing with said database and issuing control signals;
- a bus connected to said processor;
- an input device for receiving commands and file identification information from an operator and providing the commands and file identification information to said processor;

10

a plurality of folder retainers each connected to said bus via an addressable switch having a unique address, and each including an indicator for indicating the presence of a searched for file folder that is located therein; and

15

a plurality of file folders, each file folder including an addressable switch adapted to be electrically connected to said bus when the file folder is placed in said folder retainer, and each including an indicator that is activated when said addressable switch receives a control signal from said processor including the unique address corresponding to the file folder, wherein, when the operator inputs a command to search for a specific file, said processor

20

identifies a first unique address and file location stored in said database as corresponding to input file identification information identifying the specific file to be searched for,

displays the file location,

identifies a second unique address in said database for the addressable switch of the folder retainer in which the searched for file folder is located,

transmits a control signal that energizes a segment of said bus within the folder retainer corresponding to the searched for file,

25

transmits a control signal including the second unique address to the addressable switch of the folder retainer causing the indicator of the folder retainer to activate, and



control signal from said processor including the unique drawer address  
corresponding to the file drawer; and

20 a plurality of file folders, each file folder including an addressable folder indicator  
switch and a folder indicator light, wherein said addressable folder indicator switch is  
connected to said first and second conductive rails when the file folder is placed in one of  
said file drawers, and said folder indicator light is illuminated when said addressable folder  
indicator switch receives a control signal from said processor including the unique folder  
25 address corresponding to the file folder.

21. The file tracking system of claim 20, wherein said database additionally maintains a  
unique cabinet address, and said file cabinets each further include an addressable cabinet  
indicator switch connected to said bus and having a unique cabinet indicator address, and a  
cabinet indicator light connected to said addressable cabinet indicator switch, wherein said  
addressable cabinet indicator switch illuminates said cabinet indicator light when said  
addressable cabinet indicator switch receives a control signal from said processor including  
the unique cabinet indicator address corresponding to the file cabinet.

22. The file tracking system of claim 20, wherein said first conductive rail provides  
power to said addressable folder indicator switches and said addressable drawer indicator  
switches.



23. A method of locating a file comprising the steps of:

inputting information identifying the file to be located;

accessing a database to determine a present location of the file, a unique identification code associated with a receiver at the present location of the file, and a unique identification code associated with the file;

transmitting a first control signal to the receiver at the present location of the file, the first control signal including the unique identification code of the receiver, transmitting a second control signal to the file, the second control signal including the unique identification code of the file; and

activating an annunciator in response to receipt of one of the first and second control signals.

24. The method of claim 23, wherein the annunciator is located on the file.

25. The method of claim 23, wherein the annunciator is located on the receiver.

26. The method of claim 23, wherein the annunciator is an indicator light.

27. The method of claim 26, wherein said indicator light is located on the file and wherein the method further includes the step of illuminating a second indicator light on the receiver in response to receipt of the first control signal at the receiver.

28. A method of locating a file comprising the steps of:

- inputting information identifying the file to be located;
- accessing a database to determine a present location of the file, a unique identification code associated with a folder retainer in which the file is located, and a unique identification code associated with the file;
- transmitting a control signal to the file, the control signal including the unique identification code of the file and the unique identification code of the folder retainer; and
- illuminating an indicator light on the file in response to receipt of the control signal at the file.

29. The method of claim 28, further including the step of illuminating a second indicator light on the folder retainer in response to receipt of the control signal at the folder retainer.

30. A file locating system comprising:

- a database for maintaining file location and unique file addresses for a plurality of files;
- a processor for interfacing with said database and issuing control signals;
- a bus connected to said processor;
- a folder retainer, connected to said processor by said bus;
- a plurality of file folders, each file folder including an addressable switch connected to said bus when the file folder is placed in said folder retainer;

10 a file locating device adapted to aid in the location of a file folder in response to control signals issued by said controller; and

a conductor provided in said folder retainer and coupled to said bus, for establishing a common communication path along which said control signals issued from said processor are transferred to the addressable switches of at least two of said file folders.

31. The file locating system of claim 30, wherein said file locating device is an indicator light located on the file folder.

32. The file locating system of claim 30, further including:

input means for inputting information identifying the file folder to be located, wherein said processor accesses said database to determine a present location of the identified file folder, a unique identification code associated with a folder retainer in which the file folder is presently located, and a unique identification code associated with the file folder, said processor transmits a control signal to the folder retainer in which the file folder is located, the control signal including the unique identification code of the file folder and the unique identification code of the folder retainer, and

10 said file locating device includes an annunciator activatable in response to receipt of the control signal, said annunciator being located on said folder retainer.

33. The file locating system of claim 32, wherein said annunciator is an indicator light.

*Sub 1* 34. An electronic file tracking system comprising:  
a database for maintaining file identity, file location, and unique file addresses for a plurality of files;  
a processor for issuing control signals;  
5 a folder retainer having electrical contacts communicatively coupled to said processor;  
and  
a plurality of file folders, each file folder including an addressable device adapted to be electrically coupled to said bus when the file folder is placed in said folder retainer, and a conductor located on said file folder and configured so as to electrically couple said  
10 addressable device to the electrical contacts of said folder retainer when said file folder is positioned in any one of several different positions.

*Sub 152* 35. The electronic file tracking system of claim 34, wherein, for at least one file folder, said conductor is configured to electrically couple said addressable device to the electrical contacts of said folder retainer when said file folder is positioned in any one of several different orientations with respect to the electrical contacts.

36. The electronic file tracking system of claim 34, wherein, for at least one file folder, said conductor is configured to electrically couple said addressable device to the electrical contacts of said folder retainer when said file folder is positioned in any one of several different positions with respect to an adjacent file folder.

37. The electronic file tracking system of claim 36, wherein, for at least one file folder, said conductor is configured to electrically couple said addressable device to the electrical contacts of said folder retainer when said file folder is positioned in any one of several different rotated positions with respect to an adjacent file folder.

*Sub 103*  
38. The electronic file tracking system of claim 34, wherein, for at least one file folder, said conductor is configured to electrically couple said addressable device to the electrical contacts of said folder retainer at a plurality of locations on said file folder.

39. The electronic file tracking system of claim 38, wherein at least one of said plurality of locations is the side surface of said file folder.

40. The electronic file tracking system of claim 38, wherein at least one of said plurality of locations is the edge surface of said file folder.

41. The electronic file tracking system of claim 38, wherein one of said plurality of locations is the side surface and another one of said plurality of locations is the edge surface of said file folder.

42. The electronic file tracking system of claim 34, and further comprising a database for maintaining file location and unique file addresses for a plurality of files, wherein said processor interfaces with said database.

43. A file locating system comprising:

a database for maintaining file location code and unique file addresses for a plurality of files, said database further maintains general file information for a plurality of files including at least one of a description of contents within the file, file classification, a key word list associated with the file, a title of the file, an originator of the file, accessibility permission lists for the file, location descriptions associated with each file location code, and historical information for a plurality of files;

a processor for interfacing with said database and issuing control signals;

a bus connected to said processor;

a folder retainer, connected to said processor by said bus;

a plurality of file folders, each file folder including an addressable switch connected to said bus when the file folder is placed in said folder retainer; and

a file locating device adapted to aid in the location of a file folder in response to control signals issued by said controller.

44. The file locating system of claim 43, wherein the general file information stored in said database includes a key word list, which lists certain key words that describe or may be found in a file.

45. The file locating system of claim 43, wherein the general file information stored in said database includes file classification, which indicates any classification groups with which a file folder is associated.

46. The file locating system of claim 43, wherein the general file information stored in said database includes accessibility permission lists, which are used to prevent certain individuals from accessing certain file folders.

47. The file tracking system of claim 43 and further including a plurality of folder retainers connected to said processor by said bus and remotely located relative to a memory device in which said database is stored, wherein the location descriptions stored in said database for each of said plurality of files identifies the folder retainer in which the  
5 corresponding file folder is located.

48. The file tracking system of claim 43, wherein said historical information includes at least one of file location history, file access history, and file retention history.

49. The file tracking system of claim 48, wherein the historical information stored in said database includes file location history, which indicates the locations and dates at which a file folder has been located over a period of time.

50. The file tracking system of claim 48, wherein the historical information stored in said database includes file access history, which indicates who checked out a file folder and when the file folder was checked in or out.

51. The file tracking system of claim 48, wherein the historical information stored in said database includes file retention history, which identifies the length of time since a file folder was last accessed in order to determine whether the file may be purged.

52. The file tracking system of claim 43, wherein said database further maintains a time stamp for a plurality of files indicating a time that a file was added, removed, and/or detected at a new location.

53. A file tracking system comprising:  
a processor for issuing control signals;  
a folder retainer having electrical contacts communicatively coupled to said processor;  
and

a plurality of file folders, each file folder including an addressable device connected to conductive contacts provided on an exterior surface of the file folder and adapted to be electrically coupled to said contacts of said folder retainer,

wherein said folder retainer is configured to support file folders that are stacked vertically upon one another such that each addressable device on each file folder in a vertical stack supported by said folder retainer, is coupled to said electrical contacts of said folder retainer through the conductive contacts provided on file folders therebelow.



54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100

54. A file tracking system comprising:  
a processor for issuing control signals;  
a plurality of folder retainers communicatively coupled to said processor, wherein at least one of said folder retainers is configured to support file folders in an orientation different than that in which another folder retainer supports file folders; and  
a plurality of file folders, each file folder including an addressable device adapted to be communicatively coupled to said processor when the file folder is placed in any one of said folder retainers.

55. The file tracking system of claim 54, wherein said at least one folder retainer is configured to support hanging file folders.

56. The file tracking system of claim 55, wherein said at least one folder retainer is a file cabinet drawer.

57. The file tracking system of claim 54, wherein said at least one folder retainer is configured to support file folders stacked vertically on top of one another.

58. The file tracking system of claim 57, wherein said at least one folder retainer is a file tray.

59. The file tracking system of claim 54, wherein said at least one folder retainer is configured to support file folders that horizontally abut one another.

60. The file tracking system of claim 59, wherein said at least one folder retainer is a shelf.

61. The file tracking system of claim 54, wherein at least one of said folder retainers is communicatively coupled to said processor by an RF link.

62. The file tracking system of claim 54, wherein at least one of said folder retainers is communicatively coupled to said processor by a bus.

63. A file tracking system comprising:

a database for maintaining file identity, file location, and unique file addresses for a plurality of files;

a processor for interfacing with said database and issuing control signals;

a bus connected to said processor;

a plurality of folder retainers connected to said processor by said bus, wherein at least one of said folder retainers is configured to support file folders in an orientation different than that in which another folder retainer supports file folders; and

5 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

10 a plurality of file folders, each file folder including an addressable device adapted to  
be electrically connected to said bus when the file folder is placed in any one of said folder  
retainers.

add  
E17

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100